

to that of the square wave input audio signal.] It is desirable for the input and output of a system according to the principles of the present invention, such as the above described exemplary circuits 10 and 100, to have volume levels that are perceptively about the same.

An enhanced audio signal, according to the present invention, exhibits an improved harmonic quality compared to that of the input electronic audio signal.

IN THE CLAIMS

Please amend claims 31, 33, 35 and 37 as follows:

31. (Amended) An apparatus for enhancing the quality of an input audio signal having a band [plurality] of frequencies with a high end and a low end, said apparatus comprising:

~~a circuit operatively adapted such that when an [for distorting the] input audio signal having a frequency band with a high end and a low end is transmitted therethrough, the input audio signal is distorted such that frequencies in the input audio signal increase [in amplitude] as per increasing frequencies from a reference frequency up to an amplitude peak at a high frequency and, after the high frequency, decrease in amplitude as per increasing frequencies toward the high end, whereby [into] an enhanced audio signal is produced that [by non-linearly amplifying frequencies of the input audio signal such that the enhanced audio signal] exhibits an improved harmonic quality compared to that of the input audio signal.~~

33. (Amended) The apparatus as recited in claims [32] 31, wherein said circuit is further operatively adapted so that when the [square wave] input audio signal is transmitted therethrough, the [output] input audio signal is further distorted such that other [includes] frequencies [which] in the input audio signal increase in amplitude as per decreasing frequencies from the

reference frequency toward the low end and up to an amplitude peak at a low frequency, [over at least a portion of the frequency bandwidth] wherein the enhanced audio signal exhibits more of an improved harmonic quality compared to that of the input audio signal.

35. (Amended) A method of enhancing the quality of electronic audio signals, comprising the steps of:

providing an input audio signal having a [plurality] band of frequencies with a high end and a low end; and

distorting the input audio signal [into an enhanced audio signal, wherein by non-linearly amplifying frequencies of the input audio signal such that the] such that frequencies in the input audio signal increase in amplitude as per increasing frequencies from a reference frequency up to an amplitude peak at a high frequency and, after the high frequency, decrease in amplitude as per increasing frequencies toward the high end, whereby an enhanced audio signal is produced that exhibits an improved harmonic quality compared to that of the input audio signal.

~~37. (Amended) The method as recited in claim [36] 35,
wherein said step of distorting also includes [non-linearly
amplifying a portion of the frequency bandwidth at the low end]
further distorting the input audio signal such that other
frequencies in the input audio signal increase in amplitude as
per decreasing frequencies from the reference frequency toward
the low end and up to an amplitude peak at a low frequency,
wherein the enhanced audio signal exhibits more of an improved
harmonic quality compared to that of the input audio signal.~~

Please cancel claims 12, 32 and 36, without prejudice or disclaimer.

Please add new claims 40-42 as follows:

40. (New) An apparatus for enhancing the quality of an input audio signal having a band of frequencies with a high end and a low end, said apparatus comprising:

a circuit operatively adapted such that when an input audio signal having a frequency band with a high end and a low end is transmitted therethrough, the input audio signal is distorted such that frequencies in the input audio signal increase in amplitude as per increasing frequencies from a reference frequency toward the high end and up to an amplitude peak at a high frequency, and other frequencies in the input audio signal increase in amplitude as per decreasing frequencies from the reference frequency toward the low end and up to an amplitude peak at a low frequency, whereby an enhanced audio signal is produced that exhibits an improved harmonic quality compared to that of the input audio signal.

41. (New) The apparatus as recited in claim 31, wherein said circuit is operatively adapted to individually amplify each frequency in the band between the reference frequency and the high frequency so that the frequencies between the reference frequency and the high frequency increase in amplitude as per increasing frequencies.

42. (New) The apparatus as recited in claim 33, wherein said circuit is operatively adapted to individually amplify each frequency in the band between the reference frequency and the low frequency so that the frequencies between the reference frequency and the low frequency increase in amplitude as per decreasing frequencies.